## REMARKS

Claims 1-18 and 20-41 remain in the application including independent claims 1, 15, and 18. Claim 19 has been cancelled.

Claim 20 has been amended to depend from claim 18 and has further been amended to address antecedent basis issues not indicated by examiner, but discovered by Applicant in preparing the subject response. Applicant believes that all claim objections have now been overcome.

Claims 1-12, 15-18, 28-31, 33, 34, and 36-40 stand rejected as being unpatentable over Steffens, Jr. et al. in view of Stanley. The examiner argues that Steffens discloses all of the features of claims 1, 15, and 18 except for a child seat sensor. Applicant respectfully traverses this characterization of Steffens' teachings.

Claim 1 includes the feature of at least one modifier sensor that generates a modifier signal representative of either a positive condition to enable an occupant restraint system or a negative condition to disable the occupant restraint system where the modifier signal disables at least one of an airbag control or a seat belt control as soon as at least one negative condition is identified and does not disable the airbag control or the seat belt control if all predetermined conditions are positive conditions.

Steffens does not disclose, suggest, or teach this feature. In fact, Steffens operates in a very different manner than Applicant's invention as set forth in the claims. Steffens does not disable any portion of the restraint system upon detection of an appropriate modifier signal. For example, as shown in Figure 4, at step 202 the system determines whether or not the occupant is belted to the seat. If the answer is NO then the system proceeds to determine occupant weight,

position, etc. and only adjusts seatbelt and airbag systems when all subsequent steps have been performed. The Steffens reference does not teach disabling the safety restraint/seatbelt mechanism when an indication that the occupant is not belted to the seat is generated. Steffens does not disable an airbag or seat belt control until all of the steps shown and described in Figures 4-9 have been performed. Thus, Steffens does not disable at least one of an airbag control or a seat belt control as soon as at least one negative condition is identified as claimed by Applicant. For similar reasons Steffens does not disclose, suggest, or teach the features of claim 18.

Claim 15 is also allowable over the combination of Steffens and Stanley for the reasons discussed above. Further, claim 15 includes the combination of a plurality of collision sensors including a severity sensor for generating a severity signal indicating collision characteristics occurring at the time of or just after collision and a pre-collision sensor for generating a pre-collision signal indicating vehicle characteristics occurring just before collision. The crash sensor 90 of Steffens only determines vehicle characteristics at the time of the collision, col. 3, line 64 to col. 4, line 11. The Examiner cites col. 3, lines 1-67 as teaching the generation of a pre-collision signal indicating vehicle characteristics before collision, however, the material referred to at col. 3, lines 1-67 only indicates *occupant characteristics* prior to collision, not vehicle characteristics.

Further, with regard to reliance on Stanley to teach the use of a child seat sensor, Applicant makes the following comments. First, the Stanley system does not include a separate child seat sensor, as claimed by Applicant, but instead relies on pre-existing adult occupant presence and position sensors to attempt to identify the presence and position of a child seat. For the reasons set forth below, the Stanley system cannot uniquely identify the presence of a child seat in all possible

installed positions and thus is insufficient for the purpose of consistently and accurately identifying a child seat in all possible installed positions.

Stanley uses a transmitter/receiver subsystem 20 to determine whether or not an occupant is present on the seat and uses a range/proximity sensing subsystem 30 to determine the position of the occupant on the seat. The transmitter 22 and receiver 24 are located so that a rear facing infant seat does not block the line of sight between those components, but that a normally seated forward facing occupant always will block that same line of sight, col. 11, lines 15-54. Thus, when the line of sight is not blocked, a rearward facing child seat is identified. Alternatively, the airbag is disabled if the range/proximity sensing subsystem detects a rear facing child seat in the at-risk zone 34, col. 12, lines 4-6. Using the occupant presence and occupant position sensors alone, as taught by Stanley, cannot be equated to a child seat sensor because the system will not identify the presence of a child seat in all possible installation positions. For example, Stanley cannot detect a forward facing child seat. A child seat that is installed in a forward facing position will block the line of sight between the transmitter 22 and the receiver 24 and further will not be detected as being present in the at-risk zone. Thus, there is no way to differentiate between a forward facing child seat and an adult seated on the seat in Stanley. Thus, Stanley does not truly teach an occupant restraint system that accurately identifies the presence of a child seat.

Further, as Stanley does not teach the use of a separate child seat sensors but instead relies on existing occupant sensors, the existing Steffens' occupant position sensors would have to be utilized to detect a child seat. However, the layout of the Steffens occupant position sensors 80, 84, 86 would not be able to differentiate an adult from a child seat. To rearrange the Steffens occupant position sensors in the configuration taught by Stanley would defeat the benefits taught and

achieved by the specific occupant position sensor configuration in Steffens. It is improper to modify a base reference in a manner that defeats or destroys the benefits of that reference. Further, as discussed above, even if the Steffens' occupant sensors were re-positioned as taught by Stanley, they still would not be able to accurately identify the presence of a child seat.

Many of the features of the dependent claims are also not taught by Steffens and Stanley. For example, claim 28 includes the feature of including the step of learning vehicle characteristics unique to vehicle type and size by using a neural network. This feature is not disclosed, suggested, or taught in any of the cited references. Further, the examiner has not indicated where in the references such a feature is taught.

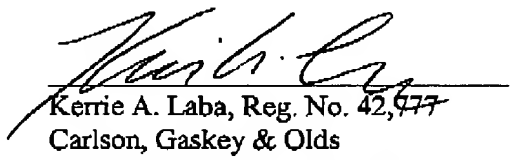
With regard to claims 36-40, the examiner admits that neither Steffens nor Stanley mentions the use of a network capable of learning various vehicle characteristics unique to vehicle type and size and adjusting the output signals accordingly. The examiner simply argues that this feature is "inherent." Applicant strongly objects to this characterization and respectfully requests that the examiner indicate where in the prior art this feature is taught. The benefit of this feature is that a common system can be used for all vehicles instead of re-designing and re-programming each system separately for each vehicle type. The only teaching of this feature is found in Applicant's own disclosure, which cannot be used as motivation or suggestion to modify Steffens to include this feature because this is an improper use of hindsight.

Claims 13, 14, 27, and 41 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Steffens in view of Stanley and further in view of Gille. For the reasons, discussed above, the combination of the Steffens and Stanley references do not teach the system as claimed by Applicant. The deficiencies in Steffens and Stanley are also not shown in Gille. Further, with regard to the

feature of a fuzzy logic control system for optimizing the plurality of output signals based on the plurality of input signals as set forth in claims 14, 27, and 41, the examiner argues that Steffens teaches this feature, citing the abstract and Figure 2. Neither the abstract nor Figure 2 of Steffens mentions the use of a fuzzy logic control system, let alone teaching how a fuzzy logic control system is used in the occupant restraint system. Further, Steffens teaches none of the detailed steps of claim 27. The only teaching of this feature is found in Applicant's own disclosure and cannot be used as motivation or suggestion to modify Steffens to include this feature because this is an improper use of hindsight.

For the reasons set forth above, all claims should be allowed. An indication of such is requested. Applicant believes no additional fees are due, however, the Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds for any additional claim fees.

Respectfully submitted,



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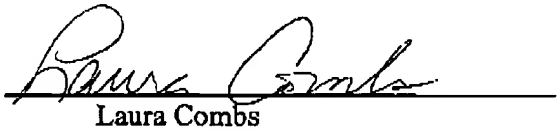
Dated: March 11, 2003

CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the United States patent and Trademark Office, fax number (703) 872-9326, on March 11, 2003.



Laura Combs

**APPENDIX A**
**Claims**

**(Version With Markings to Show Changes Made)**

20. (Twice Amended) A method as set forth in claim [20] 18 wherein the at least one modifier signal comprises a plurality of modifier signals and step (a) includes generating a first modifier signal having either a positive occupant presence signal indicating that an occupant is present in a predetermined area or a negative occupant presence signal indicating that the occupant is not in the predetermined area; generating a second modifier signal having either a positive child seat signal indicating that a child seat is properly installed within the predetermined area or a negative child seat signal indicating that the child seat is not present or is improperly installed within the predetermined area; and generating a third modifier signal having either a positive seat belt usage signal indicating that a seat belt is in an engaged position or a negative seat belt usage signal indicating that the seat belt is in a disengaged position; and wherein step (e) includes the step of modifying the output signal to disable the occupant restraint system when either the negative occupant presence signal, the negative child seat signal, or the negative seat belt usage signal is generated.

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